

**ABSTRACT****Method for pre-detecting responses in a secondary radar and application to the detection of mode S responses**

The invention relates to a method for pre-detecting responses in a secondary radar. It applies in particular to the detection of mode S responses.

An aim of the invention is to process the signals received before  
5 decoding the responses so as to allow the detection of mixed responses, and avoid the detection of ghost responses.

For this purpose, the invention has in particular as subject a method for pre-detecting responses in a secondary radar, the responses to be pre-detected comprising a message coded by a modulated signal,  
10 characterized in that :

- (i) the presence of a signal exhibiting modulation characteristics in accordance with those of a message of a response to be pre-detected is identified ;
- (ii) the duration of the signal identified is measured ;
- 15 (iii) this duration is compared with a minimum duration, this minimum duration being determined on the basis of the duration of the messages of the responses to be pre-detected.

**Figure 1**